

## **REMARKS**

The Examiner is thanked for the performance of a thorough search. By this amendment, the specification and claims 1-3, 5-8, 18, 21, 24 - 47, 49 and 51 - 52 are amended. Claim 4 is canceled. Hence, claims 1-3 and 5-52 are pending in this application. The amendments to the claims do not add any new matter to this application. Furthermore, the amendments to the claims were made to improve the readability and clarity of the claims and not for any reason related to patentability. All issues raised in the Office Action mailed January 3, 2008 are addressed hereinafter.

### **I. ISSUES NOT RELATING TO PRIOR ART**

#### **A. OBJECTIONS TO THE DRAWINGS**

##### **1. ELEMENT 102**

The Office Action states that the element 102 was mentioned in the specification in paragraph [0032] but is not depicted in the drawing figures. Applicants believe that the objections are fully addressed by amended paragraph [0032].

##### **2. FIGURES 1 AND 4**

The Office Action states that in the drawing descriptions, FIG. 1 and 4 recite that the embodiments of the invention may be implemented. Therefore, FIG. 1 and 4 should be labeled as prior art. The objection is respectfully traversed. Paragraph [0027] in the specification provides:

[0027] Environment 100 further comprises a workstation 104, from which one or more processes that are described in reference to FIG. 2 may be performed.

**Workstation 104 is any suitable computing platform, such as computer system 400 of FIG. 4, that is capable of reading instructions and, through execution of such instructions, causing one or more processors to carry out steps as described in reference to FIG. 2. Furthermore, workstation 104**

**provides an interface for a user to initiate performance of or view results  
of one or more of the steps described in reference to FIG. 2 and FIG. 3.**

(Emphasis added.) Because the workstation 104 **provides an interface** to initiate the steps described in FIG. 2-3, which illustrate “a process for determining the source of audio degradation in [a path of] an IP telephone environment,” the workstation 104 is **used** to implement the embodiments of the invention. (Specification, paragraphs [0028] and [0045])

Further, since **workstation 104 is used to implement the embodiments of the invention, and the workstation 104 is any suitable computing platform, such as computer system 400 of FIG. 4**, the computer system 400 depicted in FIG. 4 is **used** to implement the embodiment of the invention. Thus, FIG. 1 shows workstation 104 which may be programmed or configured to implement an embodiment of the invention and the workstation may take the form of FIG. 4, which also may be programmed or configured to implement an embodiment.

Because FIG. 1 and FIG. 4 can represent embodiments of the invention, FIG. 1 and FIG. 4 do not solely show prior art elements. Reconsideration and withdrawal of the objection is respectfully requested.

### **B. OBJECTIONS TO THE SPECIFICATION**

The Office Action states that in the specification on page 9, paragraph [0027] line 3 mentions the element 104 as a workstation, but, paragraph [0032] on page 22 mentions that element 102 is a workstation. Applicants believe that the objections are fully addressed by amended paragraph [0032]. Reconsideration and withdrawal of the objection is respectfully requested.

### **C. OBJECTIONS TO THE CLAIMS**

The Office Action states that claim 45-46 and 50 are duplicates of claim 42-43 and 48. Applicants believe that the objections with respect to claims 45-46 are fully addressed by amended claims 45-46.

However, the objection with respect to claim 50 is respectfully traversed. Because claim 50 depends from claim 49, whereas claim 48 depends from claim 47, claim 50 is not a duplicate of claim 48.

Reconsideration and withdrawal of the objection is respectfully requested.

**D. CLAIMS - U.S.C. § 112, SECOND PARAGRAPH**

The Office Action stated that claims 1, 4, 18, 21, 24, 41 and 44 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Applicants believe that the rejection is fully addressed by amended claims 1, 5, 18, 21, 24, 28, 41, 44, 47, 49, 51 and 52.

Reconsideration and withdrawal of the objection is respectfully requested.

**E. CLAIMS - U.S.C. § 101**

The Office Action states that claims 1-52 are rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter.

**CLAIMS 1, 18, 24, 41, 47 AND 49**

The Office Action states that claims 1, 18, 24, 41, 47 and 49 recite limitation comprising “audio degradation,” which allegedly is an abstract idea. Applicants believe the rejection is fully addressed by amended claims 1, 18, 24, 41, 47 and 49. Reconsideration and withdrawal of the rejection is respectfully requested.

**CLAIMS 24, 41, 51 AND 52**

The Office Action states that claims 24, 41, 51 and 52 are allegedly directed to non-statutory subject matter. Applicants believe the rejection is fully addressed by amended paragraphs [54] and [55] in the specification, and claims 24-44, 51 and 52. Reconsideration and withdrawal of the objection is respectfully requested.

## II. ISSUES RELATING TO PRIOR ART

### A. CLAIMS -- 35 U.S.C. § 102(b): KEANE

Claims 1-4, 6-14, 16-20, 22-27, 29-37, 39-43 and 45-52 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Keane Pub. No. US 2002/0193999 A1 (hereinafter “Keane”). The rejection is respectfully traversed.

#### CLAIM 1

Claim 1 recites:

1. A method for determining the source of audio signal degradation in an Internet Protocol (IP) telephony environment, the method comprising the computer-implemented steps of:

for each switching device of a set of switching devices that are configured on a network between a first endpoint and a second endpoint,

storing a reference version of an audio signal waveform at an originating device; transmitting, from the originating device to the switching device, the

reference version of the audio signal waveform;

receiving at the originating device from the switching device a second version of the reference version of the audio signal waveform that represents the waveform after transmission at least to the switching device;

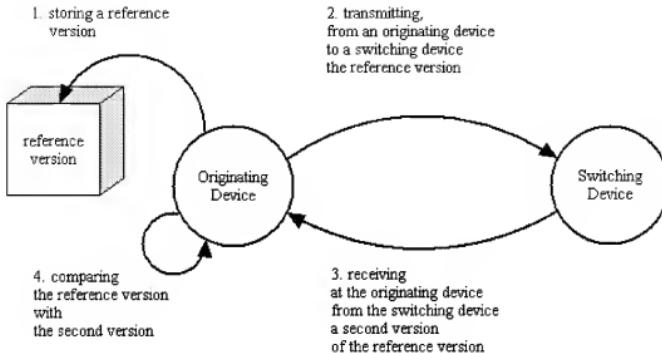
computing at the originating device audio signal degradation that occurred between the originating device and the switching device by comparing the reference version of the audio signal waveform with the second version of the reference version of audio signal waveform;

determining the source of audio signal degradation in a path between the first endpoint and the second endpoint based on the audio signal degradations associated with each of the switching devices of the set of switching devices; and

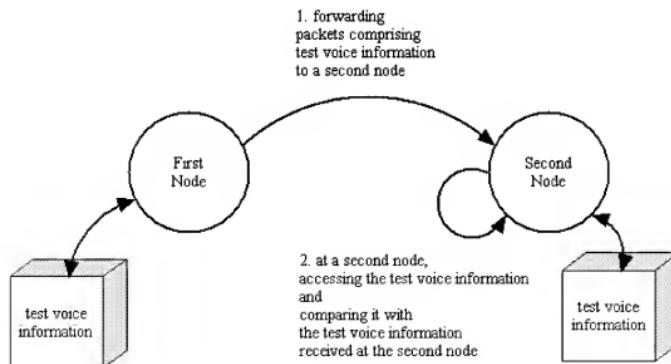
storing an identifier of the source of audio signal degradation.

Claim 1 recites one or more features that are not taught or suggested by Keane. The following diagram clarifies differences in the approaches:

Claim 1



Keane



For example, Keane does not describe “**receiving at the originating device from the switching device a second version of the reference version of the audio signal waveform that represents the waveform after transmission at least to the switching device.**” Keane does not send a second version of the reference version of the audio signal waveform back to the originating device.

Keane provides a method for measuring a speech quality in a communication network, which comprises first nodes, second nodes and other nodes. (Abstract) The first and second nodes maintain a copy of the same test voice information, whereas the other nodes have no copies of the test voice information. (Abstract) In Keane, a voice call is sent from a first node to a second node, and by the time the call reaches the second node, it may have been forwarded by other nodes. (Keane, paragraph 29)

To test speech quality in the network, Keane’s first node adds test voice information to a voice call, and sends the call to the second node. (Keane, paragraphs 18-19, 22). Upon receiving the voice call, the second node accesses its own copy of the test voice information, and compares own test voice information with the test voice information in the voice call received from the first node. (Keane, paragraph 21, Fig. 2, paragraph 75)

However, Keane’s second node never sends the received voice call back to the first node. Therefore, in Keane, the voice call received at the second node, which might correspond to the “**second version of the audio signal waveform that represents the waveform after transmission at least to the switching device,**” is never sent back “**from the switching device**” to “**the originating device,**” as in claim 1.

Further, Keane does not describe “**computing at the originating device audio signal degradation that occurred between the originating device and the switching device,**” because Keane performs its speech quality assessment algorithm at the second node, not at the call originating node. (Keane, paragraphs 21, 51, 55, and 75)

Also, Keane does not describe “computing at the originating device audio signal degradation [...] by comparing the reference version, stored at the originating device, [...] with the second version of the reference version audio signal waveform,” because Keane performs its quality assessment algorithm by comparing the test voice information received from the first node with own test voice information, not the test voice information “stored at the originating device,” as claimed.

Because Keane compares received test voice information with own test voice information, Keane requires that the test voice information be first distributed to the second nodes, and that the first nodes send only known test voice information to the second nodes. Consequently, Keane’s quality assessment algorithm is limited only to previously identified and stored test voice patterns. (Keane, paragraph 18) Otherwise, Keane’s comparison produces spurious results. Therefore, Keane does not compare “the reference version [...] stored at the originating device, with the second version [...] that represents the waveform after transmission at least to the switching device,” as claimed.

Claim 1 recites at least the above features that are not described in Keane. Therefore, Keane cannot anticipate claim 1. Reconsideration and withdrawal of the rejection are respectfully requested.

#### CLAIM 18

In discussion of claim 18, the Office Action relied upon an inaccurate reproduction of the text of claim 18. More accurately, Claim 18 recites:

18. A method for determining audio signal degradation in a path of an Internet Protocol (IP) telephony environment, the method comprising the computer-implemented steps of:
  - receiving from an originating device, at a network switching device, a reference version of an audio signal waveform; and

**transmitting to the originating device a second version of the reference**

**version of the audio signal waveform** that represents the audio signal waveform after transmission at least to the network switching device, **for computing audio signal degradation** that occurred in a path between the originating device and the network switching device **by comparing the reference version of the audio signal waveform with the second version of the reference version of the audio signal waveform.**

Claim 18 recites one or more features that are not taught or suggested by Keane. For example, Keane does not describe “**transmitting to the originating device a second version of the reference version of the audio signal waveform** that represents the audio waveform after transmission at least to the network switching device.”

As described above, in Keane, upon receiving the second version of the reference version of the audio signal waveform at the second node, the second node itself performs the audio signal measurements, and does not “**transmit the second version of the reference version of the audio signal waveform to the originating device,**” as claimed.

Similarly, as described above, Keane’s first node (the originating device) does not “**compar[e] the reference version of the audio signal waveform with the second version of the reference version of the audio signal waveform,**” as claimed.

Thus, claim 18 recites at least the above features that are not described in Keane, and Keane cannot anticipate claim 18. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

#### CLAIM 24

Claim 24 recites features similar to those in claim 1. Therefore, applicants believe that claim 24 is patentable over Keane for the same reasons discussed for claim 1. Reconsideration and withdrawal of the rejection are respectfully requested.

**CLAIM 41**

Claim 41 recites features similar to those in claim 18. Therefore, applicants believe that claim 41 is patentable over Keane for the same reasons discussed for claim 18. Reconsideration and withdrawal of the rejection is respectfully requested.

**CLAIM 47**

Claim 47 recites features similar to those in claim 1. Therefore, applicants believe that claim 47 is patentable over Keane for the same reasons discussed for claim 1. Reconsideration and withdrawal of the rejection are respectfully requested.

**CLAIM 49**

Claim 49 recites features similar to those in claim 18. Therefore, applicants believe that claim 49 is patentable over Keane for the same reasons discussed for claim 18. Reconsideration and withdrawal of the rejection are respectfully requested.

**CLAIM 51**

Claim 51 recites features similar to those in claim 1. Therefore, applicants believe that claim 51 is patentable over Keane for the same reasons discussed for claim 1. Reconsideration and withdrawal of the rejection are respectfully requested.

**CLAIM 52**

In discussion of claim 52, the Office Action recited and relied upon the text of claim 51 instead of the text of claim 52. Claim 52 recites limitations similar to those in claim 18. Therefore, applicants believe that claim 52 is patentable over Keane for the same reasons discussed for claim 18. Reconsideration and withdrawal of the rejection are respectfully requested.

**B. CLAIMS -- 35 U.S.C. § 103(a): KEANE, BENNETT, OHLSSON**

Claims 5, 21, 28 and 44 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Keane in view of Bennett Pub. No. US 2004/0090921A1 (hereinafter “Bennett”), and in

further view of Ohlsson US Patent No. 6452950 (hereinafter "Ohlsson"). (Office Action, page 4) The rejection is respectfully traversed.

Claims 5, 21, 28 and 44 depend directly or indirectly from independent claims 1, 18, 24 and 41 respectively. As shown above, claims 1, 18, 24 and 41 are not anticipated by Keane. Therefore, claims 5, 21, 28 and 44 are not anticipated by Keane. Further, neither Bennett, nor Ohlsson, cures the deficiencies of Keane with respect to independent claims 1, 18, 24 and 41. Thus, because Keane, Bennett, and Ohlsson, individually and in combination, fail to provide all the above discussed features of claims 1, 18, 24 and 41, due to claim dependency, claims 5, 21, 28 and 44 are patentable over Keane in view of Bennett, and in further view of Ohlsson.

Reconsideration and withdrawal of the rejection are respectfully requested.

#### **C. DEPENDENT CLAIMS**

The claims that are not discussed above depend directly or indirectly on the claims that have been discussed. Therefore, those claims are patentable for the reasons given above. In addition, each of the dependent claims separately introduces features that independently render the claim patentable. However, due to the fundamental differences already identified, and to expedite positive resolution of the examination, separate arguments are not provided for each of the dependent claims at this time.

#### **III. CONCLUSIONS**

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested.

If any applicable fee is missing or insufficient, the Commissioner is authorized throughout the pendency of this application to charge any applicable fee to our Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes

SHANKAR, Ser. No. 10/753,274 filed 1/7/04  
GAU 4141, Examiner J. King  
REPLY TO OFFICE ACTION

that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,  
HICKMAN PALERMO TRUONG & BECKER  
LLP

Date: March 18, 2008

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